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Factors Stimulating the Introduction of New Plant Cultures

1. The introduction of new plant cultures is closely tied in with Soviet attempts at economic ~~autonomy~~. The new cultures are essential both to the reduction of imports and to the continuation of competition with foreign industrial products in foreign markets. These goals are considered so important that as much attention is devoted in the Soviet Union to the introduction of new plants as to exploration for metal ores. In addition, there are several scientific institutes for the acclimatization of new plants as well as a Department of New Cultures at the Scientific Bureau of the NKVD. Some attention was given to this problem in pre-revolutionary Russia, but it cannot even begin to compare with the efforts that have been made in the Soviet Union.
2. By the term "new plants", or "new cultures", are meant those plants that are really new to agronomy -- such as cultivated representatives of wild flora -- as well as those plants that are "conditionally new", and have grown successfully in cultivated form in their native lands and environment for hundreds and even thousands of years. Such plants have been brought to the Soviet Union from Egypt, China, Japan, Equatorial Asia, Africa and both Americas. Some of them do better in the new than in the native environment. One example would be the dry rice near Voronezh, which yields crops two and more times larger than in its home territory.
3. The best description of Stalin's attitude to this aspect of the national economy can be found in his concluding remarks after a report given in the Council of Labor and Defense (STO) in 1931 when the inculcation of new cultures was in full swing. After hearing the report of the Geological Committee concerning its research for tin, Stalin said: "It is impossible that on one sixth of the globe this metal cannot also be found. You just did not look hard enough. You say you need money? Only tell me how much you need!"

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4. That the same attitude applied to new cultures can be seen in the following example. Andreiav, the manager of the Agricultural Economy Division of the Central Committee of the Party and Yakovlev, the Commissar of Agriculture, complained that their work required highly qualified personnel and much money. They received the following answer from on high: "You just do not know where and how to find people -- as Yakoda (head of the NKVD, or secret police). Tell him in whose name these people are needed and where they are needed. As for money, you will get as much as you need. The Supreme Council of the National Economy (VSNKh) will get the necessary instructions. You just go ahead and work!"

Where and How the Idea of the Incultation of New Cultures Arose

5. The Supreme Council of the National Economy (VSNKh) -- until its liquidation in January 1932 -- made annual surveys and approved the economic and industrial plan for the coming year. Afterwards these functions were transferred to the State Planning Commission (Gosplan). The main purpose and task of the VSNKh was to indicate the sources of raw materials for industry, to confirm the scale of imports, and to give permission to the Commissariat of Foreign Trade to export a certain definite proportion of the foreign currency and of the gold reserve. At the same time, the substitution of native materials for imported goods and raw materials was always strongly recommended. The following examples will help clarify the process. The telephone rings (Spring, 1930):

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"VSNKh calling. The USSR People's Commissariat for the textile industry requires the import for the textile trust of the Fuller's thistle (*Dispacus fulonum*) for the making of worsted cloth and woolen cloth. Can this thistle be grown in the USSR?"

"In fact, in the southern parts,"

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"How many years would it take before we would be rid of foreign imports?"

"First of all we would have to test the culture", was the answer. Thereafter the institute received an order to include in its workplan the problem of the cultivation of the fuller's thistle.

6. Another example: An aviation general comes in and, showing dry stems and leaves wrapped in a piece of paper, says: "I was abroad and in some countries I saw airfields covered with beautiful turf. Can it grow in our country?"

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"It can and it does, in the Caucasus, the Crimea, and in the southern part of the Ukraine."

"And can you force it to grow where we need it and not where it wants to grow?"

"Well, we could give it a try."

And so this malignant weed -- swine's succory -- became an object of the institute's research.

7. Individual initiative is very much encouraged in this connection, even to the extent of awarding medals and orders. That is why the flow of offers -- directly to the relevant institute and also to the Bureau of Inventions of the VSNKh -- is enormous. Many of these offers have already become the inheritance of the national economy as a whole. For example, a variety of mint (*Lallenantia iberica*) which grew in the North Caucasus as a weed attracted the attention of a local peasant.

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As a result, industry now has a technical oil that is better than linseed oil. Another weed produced a fiber that finally eliminated in the USSR the need for Manila jute for binding large sheaves. In most cases the new plants become acclimatized and are introduced onto the fields of the USSR on the order of the government planning organs, as for example, was the case with Egyptian cotton shrub, the castor plant, and many others.

Development of the Work Plan

8. When a research institute received approval of, or got an order to include this or that culture in its research program, its staff first of all studied the climatic, meteorological and soil conditions, the physiological and water regime, and the agricultural conditions in the country and region from which the plant came. Frequently information was very scarce. That is why it was necessary to lay a foundation by studying, so to say, from the beginning. Almost every transplanted organism required detailed study of its physiology and especially of the biology of its flowering and multiplication.
9. By means of analogy a suitable district in the USSR would be chosen in which the climate, meteorological and, if possible, soil conditions were similar to those in the native country. In this analogous environment -- or in one that approached it as closely as possible -- the necessary water conditions were created with an emphasis on whatever changes were essential, either in the water conditions or in the physiology of the plant itself. As a rule the entire existing assortment of the species was assembled at once and the field test conducted on the basis of such material. After the field tests and for a period of several years (two or three generations, though sometimes earlier) the culture went on to general testing outside the experimental institutions, growing on the fields in ordinary and not experimental conditions. After the first sowing those cultures that most closely answered the needs were sent to the Department of Seed Study as a starting point for the development of a new species which would be perfectly adapted to the given conditions of life. This department also studied the physiology and the biology of the multiplication of the imported plant during its first vegetation period in the new environment.
10. Thus, by the time the culture was taken out of the experimental stations and given over to large scale commercial planting, it would already as a rule be a domestic species. In some cases the imported plants answered local conditions and demands so closely that the cultivation of new ones was not necessary. In some cases it was possible to grow the new culture in the fields for general agricultural use after only one vegetation period. In most cases, however, those new cultures that were grown successfully in the USSR required detailed and persistent work before they appeared on any large scale. The methods of work differed widely because the plants themselves are different.

Organs of Examination and Approval

11. A work plan outlining the problems and subjects to be examined was prepared by each group of workers in their department, after which the plan was elaborated and revised by the scientific council of the research institute as a whole. After having received the approval of the scientific council the plan was signed by the director, his associate in the particular scientific discipline (whose signature carried final weight for all parts of the plan except for the financial part, which had to be signed by the financial secretary), and by the scientific secretary.

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12. After these steps the plan acquired the status of an official document. In good time copies were sent to all the agricultural-production organizations that had some relation to the plan or that would later make use of its scientific results. The copies were accompanied by a request that each organization, at a specified time, send representatives to a session of the scientific council with remarks, revisions, suggestions and requests.
13. After these had been examined, the amended plan, together with the minutes of the joint session, was sent to a meeting of the proper section of the Academy of Sciences. In almost all cases the Academy of Sciences suggested getting written approval for the plan from one or more of its institutes. Only after this had been done would the Academy of Sciences draw its conclusions and present its report to the Supreme Council of the National Economy (VSNKh). It may be fitting to note at this point that before a plan was sent to the Supreme Council it had to receive the approval and code-signature of the Economics Department of the NKVD.
14. If the plan of experimental work required foreign instruments, apparatus or literature, it would be accompanied by a separate list giving the exact names of the things needed, their designation, trade name, firms, countries of purchase, and cost in gold rubles at 1926 or 1913 prices. As a rule, where possible, the Supreme Council always recommended the purchase of domestic products instead of foreign ones. In the last years before the war, imports were practically excluded, as the most complicated instruments and apparatus were made at home and much perseverance was needed to get something from abroad. However, Soviet production was sometimes of an inferior quality. In such cases it was frequently recommended that the required apparatus be bought from another firm in a country other than the one specified in the list of requests, depending on the trade policy of the USSR. As far as foreign literature was concerned, it was to be read in the library of some institution or in the library of "International Book" as they already had the licenses for ordering foreign literature.
15. Only after the fulfillment of all these formalities would the Supreme Council order the Commissariat of Finance to release the money for work on the fulfillment of the work plan for the current year and give the Commissariat of Foreign Trade the necessary authorization for the realization of the import statement. That is why the working out of the plan, its approval, and getting the money were one of the most detailed and responsible jobs and one that took as much energy from the higher scientific personnel as their experimental work.

The Fulfillment of the Work Plan by the Scientific Research Institutions and its Duration

16. Every scientific research institute had its net of experimental stations and experimental points in the various climatic zones of the USSR. These were called upon to help the institute in its work and frequently it was for them that the institute's achievements were earmarked. In reality, the work plan was carried out in part or in entirety at the experimental points. The only exceptions were those subjects on which the government could not have visible influence as, for example, Genetics, method and methodology of research, etc. The other subjects such as the biology of development and flowering, physiology, water and temperature conditions, fertilization, technique of cultivation, production effectiveness, and the economic aspects, all these were solved on the spot for every district, exactly as the work on the selection and cultivation of new species.

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17. Depending on the complexity of the question being studied and in order to insure the quickest completion of the job, the work was done not only in the open air in various places throughout the year, but also in hot-houses during the winter, spring and autumn. So, for instance, in summer, work on the acclimatization of sugar cane was often done in the open air, but in the winter it was carried out in specially-built hot-houses which made it possible to develop in a short time a fast-ripening sugar cane suitable for Middle Asia (Dainau, Termez). Even oftener seeds received in the autumn from the harvest in the Crimea or in the southern part of the Ukraine were ripened into a new generation during the winter months in Shuntukakh (in the mountains south of Maikop), Lenkorani, or Middle Asia. Thus, by shortening one vegetation period, the final result was speeded up. The supplementary expenses connected with such measures, such as the use of aviation to transport personnel and materials, were always gladly met and this kind of work always was encouraged from all sides.

Sources of Finance

18. The means for scientific research with new cultures -- both in the field and in the experimental stages -- were drawn from the funds allotted for science in the government budget. From the moment that the culture was taken out into the productive-economic fields -- even though the workers were not sufficiently acquainted with it -- all the work and all possible losses were financed at the expense of the funds allotted for improvement and introduction of new species. These funds were at the disposal of every commissariat, administration and trust. Abuses were punished very severely. So, for instance, in the spring of 1936, at an All Union Conference on new spinning cultures, held in Moscow under the presidency of Stalin, the director of the Kirgiz Trust, Urivaiev, was awarded the Order of Lenin and a big sum of money as a reward for successful work in his trust. When he returned to the capital of the Kirgiz Republic -- Frunze (formerly Pishpek) -- the authorities gave him a royal welcome. Evidently while under the impression of the Order, the money award, and the welcome, Urivaiev imagined that he could do anything and therefore allowed the expenditure of 800,000 rubles from the fund for the acclimatization of new cultures to be used for the improvement of workers' dwellings. Not ten days later the pumpered order-bearer was shot. However the expenditure of these funds even for ends that were not absolutely justifiable did not bring with it severe consequences as long as the expenditure was authorized, since unused funds were at the end of the year removed from the budget.

Bases of Financing and Methods

19. In addition to the method and even the style of work, the plan for experimental work also contained a fairly detailed bookkeeper's calculation of the cost of every method and of the operation of the experiment. In this calculation it was necessary to furnish the cost of the materials, seeds, manure, etc., of the working over of the soil, the cost of temporary and permanent labor, the wages of the specialists, and of the top supervisory personnel, excluding the administration personnel (director, the professional unions, bookkeeping, etc.), whose wages were divided in proportion to the total cost of the scientific research work of the organization. Administrative expenses were considerable and never below from forty to forty-five percent of the total general budget of the institution. That was why, though the total sum given to the institution was very imposing, in reality the means for scientific work were insufficient. So, for example, the All Union Scientific Research Institute of New and Special Cultures -- together with all its subordinate experimental stations and points (numbering 38), was in 1940 with a budget of eight million rubles, in sore financial straits. The struggle for the reduction of administrative expenses was always going on: i.e. for the curtailing of the Party administrators, the Party and professional organizations, and the growing division which as a rule was no less numerous than the administrative personnel. But this effort was always in vain. "Socialism requires an accounting," was the invariable answer.

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20. At the end of the year that part of the plan that had been fulfilled had to have a logical experimental conclusion. Since the plan in many instances did not provide for the repetition of unsuccessful experiments and in such cases reasons for the ineffectiveness or failure of the work had to be explained, experiments that had to be repeated involved many difficulties. Inasmuch as this involved supplementary allotments which were not easy to get, the failure of an experiment was always ascribed to unforeseeable accidents connected with the biology of the plant and climatic conditions. Therefore, in order to avoid the repetition of such failures, it was usual to enter into socialist competition, strange as it may seem, a competition for exactness and clarity of scientific work among the various departments of one organization, between different organizations and also between individual workers.

Control Over Scientific and Financial Activity Throughout the Year

21. In the USSR in general there are more controlling organs than are necessary. Evidently this flows from Lenin's instruction that "Socialism is not only an accounting, it is also control." The realization of this slogan in scientific, experimental and research activity in the Soviet Union also results in too frequent and energetic controls.
22. The organs of control over scientific research work in agricultural economy are fairly numerous and varied: the Academy of Sciences of the USSR; the academies of sciences of every republic within the limits of its territory; the institutes of the academies of sciences which give their approval to the plan of work and subjects; the Academy of Agro-Economic Sciences on the all-union and on the Ukrainian republic level (1930-1935) (at present the functions of the above Academy in the Ukraine are being fulfilled by the rural economy sections of the Ukraine Academy of Sciences); (The various republics do not have their own Academies of Rural Economy, which are substituted for by the rural economy departments of their Academies.) the Department of Science and of the Department of Scientific-Technical Administration of the VSNKh (during its existence); the economic division of the NKVD; the division of science and rural economy of the Central Committee of the Communist Party; the Commissariats, which will make use of the achievements of the research institutes. In addition to the above it is necessary to point out the financial section of the Commissariat of Finance, the financial divisions of the NKVD, and the bank in which the current account is deposited.
23. In the event of the non-fulfillment of some part of the plan, further financing is curtailed in proportion to the non-fulfilled part. One of the most common reasons for the non-fulfillment of the plans was the arrest of specialists. Obviously during the vegetation period it was very difficult to replace these workers with persons who were familiar with the particular activity of the institute and with the new cultures.
24. It was no less difficult to deal with the supervisors without harmful effects than it was to direct the scientific activity of the institute. It certainly required a very definite talent on the part of the scientific director of an experimental institute. Of course, if there had not been such supervision, the work of the institute in a year's time would have been much more effective and productive.

The Interrelation of Finances and the Effectiveness of Work

25. Unfavorable supervisors' reports always brought with them budgetary curtailments for the next year. In consequence, the conclusion of the work described in the work and subject plan would be delayed, which, in its turn, brought disfavor and even reprisals against the workers. So, for instance, as a result of delay in work on the spinning culture, rami, G. V. Yakovenko, the director of the experimental Institute of New Spinning Cultures, who had been the Commissar of Agriculture on the RSFSR during Lenin's time, was arrested and shot in the spring of 1937, although the work of this culture was being carried out not in the Institute in Moscow but in experimental stations which were under the Institute.

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26. Everybody knows that no matter what the cause of failures in economic, scientific and other activities, in the Soviet Union they are always classified as wreckage and sabotage, sins that bring with them death or many years in a concentration camp from which exit is doubtful.
27. Although the achievements in the introduction of new cultures are without question considerable, they are obtained at a very high cost in the blood and in the suffering of workers in this field. Evidently free competition of persons and institutes on the basis of a free stimulus of money, such as is inherent in human beings, would be more effective. But one ought not to lose sight of the fact that the permanent hunger for merchandise during the entire Soviet regime has -- according to some observers -- atrophied the power of money, and that the longing to possess it is not noticeable in the generation that was formed and that grew up during the Bolshevik period.
28. In the last years before the war the supervisors began to pay more attention to the neatness and elegance of the experimental work, as work discipline and exactness in experimentation were already on a sufficiently high level. However, the appearance of the sown fields, of the cold frames and hot-houses left much to be desired. Even then the achievements were made at the expense of many experimental institutions.

The Transfer of the Culture for Experimentation with the Aim of Putting it into Productive Use

29. When the culture has been completely studied in all stages in the experimental institute -- from the hot-houses and green-houses to the small sections in the fields, preferably with manual handling during the vegetative period -- it is taken outside the experimental institute to the fields of an ordinary farm.
30. Here, on the one hand, the culture is subjected to all the trials and misfortunes that arise under farming conditions: sowing over large areas, ordinary cultivation and care during the period of vegetation, mainly by machine and with a minimum of manual work, etc. On the other hand it is also desired to teach agricultural workers the specific process by which the new plant should be cultivated. The process is usually taught by the personnel of the institution and requires one or two vegetation periods.
31. The possible losses to the farm economy, connected as they are with the fact that the new culture may in the fields bring a deficit, are covered from a special fund. When the culture starts to be fully productive and no longer brings a deficit, it ceases to be supervised by the research institute.

How New Cultures are Included in the Productive Agricultural Economy by the Governmental Planning Organs

32. A prerequisite to the introduction of a new culture onto the fields of the USSR by the governmental organs is that it should no longer incur a deficit. Among the deciding organs may be the Gosplan, the Commissariat of Agriculture, the Commissariat of the Sovkhoz, the Administration of the Perfume Industry, etc. This concept of "profit" or "rentabil'nost'" is, of course, doubly relative in the conditions of Soviet autarchy. In normal international trade relations, many of these cultures would unquestionably not be able to find a place on Soviet fields. However, among the new cultures, such a one as the dry rice which grows in the north up to Voronezh is not only completely feasible and brings no deficit, but will in a short time force out barley because the rice has a higher yield and is also superior in its grain. The same thing is just as true of such new cultures as soya and the castor plant.

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33. However, the inclusion of a new culture into the plan for the national economy does not depend alone on its not showing a deficit in the agricultural economy. In addition, and this is frequently the deciding factor, it is essential that the industry which uses the particular agricultural raw material should consider it sufficiently valuable in relation to imported raw materials of the same kind.
34. In this connection there were also not a few tragic cases, resulting from an excessive inclination toward imported raw materials and a slighting of the native raw materials provided by the new cultures. One such example can be found in the execution in 1938 of the director of the Odessa hemp-jute factory, Rivkind, who was accused of demanding imported Indian jute and neglecting the fiber kenafa. For the same reason the director of the Fish Canning Trust, Lubarsky, was put in a concentration camp for asking for imported olive oil instead of using arahissos, a new native culture.
35. As a result of such procedures industrial workers also were discouraged from "excessive admiration" of the capitalist world. It is only fair to say, however, that some of the raw materials provided by the new cultures were better than the foreign. For example, the products of the Soviet perfume industry which uses volatile oils from new cultures -- in the recent past known only in wild form -- are better than the products of French perfumery. Among such Soviet products may be listed the perfumes Moskva, Red Rose, and the soap Camellia.
36. Thus, having become profitable in the Soviet sense to the agricultural economy and having received a favorable appraisal from industry as a raw material, the new culture is included into the national plan of production and ceases to be the object of study in scientific research institutes. The latter then start to work on new, more effective species.
37. Every culture, before being included in the plan, is studied from all sides in the research institutes. Sometimes even this process brings a positive result. For example, the study of the biochemistry of a certain plant resulted in the discovery of raw material for "strefantine", a medicine which is not native to the Soviet Union. In another case, in a similar study of biochemistry in a laboratory, a very important remedy for curing diseases of metabolism, such as gout, etc., was discovered in one of the "new plants". Both manuscripts were kept secret by the government and were not printed. Such are the demands made of a new culture before it can receive the "right of citizenship".

Success and Failure in Production and their Causes

38. Failures in the production of the new cultures depend, in the first place, on the cultures themselves, as in their choice no one is guided by the thought of what is possible. The Bolshevik slogan that "there is no such fortress in the world which Bolsheviks cannot storm" is applied also to the introduction of new cultures into the agricultural economy.
39. That is why cultures that were obviously not suitable to the rural economy of the Soviet Union were, in spite of the protests of specialists, nevertheless, studied on the receipt of orders from above. And that is why it was also -- after shorter or longer periods of study -- necessary to drop them without any positive results for the rural economy. A shining example of such a failure can be found in the case of kender, which for a time created such a stir in scientific literature, not only in the Soviet Union but also abroad.

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Being a vestigial plant of the Tertiary Epoch, kender has been preserved to our times only in some rivers where the sunlight is diffused through trees growing on the banks. The vine-like plant lives in conditions that are reminiscent of far-off times when the earth was veiled in a layer of thick clouds and when the sunlight had to come through a dense cover. Only in such conditions has the kender survived to our times. And only in such conditions can it grow at present. But the Bolsheviks decided to force it to grow in the open sunlight and to be contented with a water ration worked out by the hydrologists. About ten million rubles were spent in this effort, as well as several lives, including that of the chief of the main administration of the All Union Commissariat of Agriculture, Krasnoshchekov. It took 12 years to make the point, although from the very beginning the top levels of the Soviet hierarchy had been repeatedly warned of the dubious quality of this undertaking. And so, the innocent kender proved to be a fortress that could not be taken by the Soviet scholars.

40. The rubber plants from the Brazilian virgin forests of Geveia can serve as another example. In spite of all efforts and struggles it was difficult to create -- even in Soviet Middle Asia -- the climatic conditions that obtained in equatorial Brazil, especially as far as the required dampness was concerned.
41. The example of kok-zaghiz is also to the point, although in this one case the final verdict is not yet in. The growing of kok-zaghiz is, in terms of labor, similar to the cultivation of the sugar beet. As is well known, the kok-zaghiz is one of the many forms of the very common dandelion. Since the plant is a perennial, a particular kind of dandelion in the mountains of the Kirghiz Ala-Tau, during the course of many years, developed roots that weigh up to 100-150 grams, which contain rubber up to six or seven percent of their total weight. The Bolsheviks decided to "transform" this plant according to their desires into an annual and to force it to grow -- within one year -- a root in any case not lighter than 150 grams and with a fitting percent of rubber content. The desire may be quite justifiable, but the thought was, nevertheless, rather daring. More than a decade passed, but the perennial dandelion did not consent to this "transformation" and obstinately remained a perennial. At best in one year it produced a root weighing from 50 to 75 grams and with a rubber content of from 4 1/2 to 5% of its weight. Although it still figures in scientific literature and on the fields of experimental institutes, and rubber automobile tires are even produced from it, nevertheless there is reason to believe that these tires are as expensive as those mushrooms that are grown in the factories and mills of Moscow where the cost of one gram of mushrooms exactly equals the cost of one gram of gold.
42. But there were failures that stemmed from other, so to say, subjective causes: under these can be listed the experience with lavender. In this case the director of the scientific research institute of medicinal herbs did everything to hinder the introduction of the lavender and in spite of more than 15 years of experiments and studies, the plant never advanced beyond the confines of the institute. Several co-workers of the institute paid dearly for this: Lebov, Panshin, and the director himself, who were sent to concentration camps in the Pechora-Vorkut evidently with the aim of introducing lavender in that region.
43. As for the successful growth of new cultures, a whole series of them occupied hundreds of hectares and came to be an obligatory part of the production plan for the rural economy of the Union. Among these cultures can be listed the castor plant, soya, Egyptian cotton, the northern cotton (in the Ukraine, the Crimea, the North Caucasus, the Volga delta, Sinkiang, and the Kirghiz Republic) as well as other cultures.

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44. The reasons for the success of these cultures depended first of all on the plants themselves: it was not hard to acclimatize the cotton plant from Middle Asia -- from Tashkent and Samarkand -- to the shorter summer and the decreased warmth of the sun that exists in the Crimea or in the Ukraine. The process was made easier by man's knowledge, which made the plant over in a certain specified direction in order to introduce the new species into a new, given location.
45. The very success that resulted from certain experiments sometimes led to failure. Having raised a plant in a particularly favorable environment, it was easy to forget that similar results could not be expected in a less favorable environment. Under the impact of easy success there were attempts to sow the soya plant all the way to Tula and the castor plant almost to Orel. What happened however was that some of the earliest ripening, or in other words of the less fruitful ones, did sometimes ripen north of Kharkov. However, in this process the soya bean lost the characteristics that made it valuable, i.e. its oil-bearing capacity grew much lower. As a source of albumen the soya bean was never highly valued in the USSR. The same thing happened with the castor plant. The earliest ripening plants, and the least fruitful ones, did ripen north of the defined boundary, but the harvests were not rich and the castor oil had such a high content of iodine that it was almost valueless. Very often such failures resulted from the fact that the younger hot heads ignored the observations and warnings of the more serious workers.

Connection Between the Successful Introduction of the New Culture into Production and the Importation of Corresponding Materials and Merchandise

46. As soon as some of the new culture was successfully grown and furnished the necessary raw materials, its importation was immediately stopped. So it was with the importation of cotton from Egypt in 1931-1935, in spite of the very strong desire in the Soviet Union for good relations with the Near and Middle East. The same was true of the importation of the castor plant, castor oil, and kenaf, as well as of jute from India, of manila rope, of rami fiber, and of raffia and silk.
47. Keeping in mind that Communism finds a favorable soil only in impoverished countries, the rulers of "one sixth of the world's area" worked without ceasing to turn into beggars the population of a country to which they had turned their attention according to their plan. One of these methods was just that of refusing to buy certain things in those countries that were slated for Communization.

Domestic Substitutes for Imported Raw Materials and Production

48. Among the raw materials from new cultures, cotton, for example, was made into textiles destined for the foreign trade. For domestic consumption use was made of the substitutes for cotton. Approximately in 1933 or 1934, the cottonized hemp fiber appeared in the textile industry. Obtaining the short fiber from the hemp was a task that was worked on by the research institute of the textile industry. By the above-mentioned date, the problem was definitely solved. The cottonized hemp fiber differed little from cotton. The spinning was done in the same way, and no changes were therefore required in the spinning factories. The material was well received. Later, the Italians applied themselves to the cottonization of hemp and the Italian Army was dressed in such materials. During the last war even German officers were dressed in trousers -- steel color and as hard as iron-plate -- made from the cottonized hemp.
49. Another example is to be found in the innocent Soviet parachute. No one who has held a Soviet parachute in his hands can forget the thinness, strength and silkiness of its fabric, which is made from the rami fiber. The majority of the so-called silk fabrics -- except for the technical ones which have to be made from real silk -- are made of imitation silk from the rami fiber. There are many examples of such substitution in the Soviet Union. In most cases the raw material that comes from the new cultures is destined for the preparation of such substitutes.

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Awards and Encouragement in Connection with Decreasing Imports and Conserving Foreign Currency

50. By far the greater majority of decorations -- and of these the Bolsheviks cannot claim a shortage -- given out before the war for the introduction of new cultures into the rural economy and for their raw materials into industry have fallen into the hands of just those persons who had least to do with these accomplishments. For example, what did the members of the Commissariat of External Trade -- who carry out the orders of the VSNKh for the fulfillment of various requests from industry -- what did they have to do with any actual achievements? And yet it is they who got the awards for the reduction of imports and also -- partly -- for the saving of foreign currency. The greatest number of awards for the saving of foreign currency went to the people in the VSNKh. The same thing happened in the production process, with most of the awards going to those that had the least to do with it: the top personnel of the Commissariats, of the administration, the trusts, and to the directors of the experimental institutes, who were, because of their positions, Communists. Only in rare cases did the award actually go to the person who had really worked on the particular culture, and then it was usually an award of the third or fourth class bringing with it honor but no material reward.
51. The role of the decorations and orders is not so big but nevertheless the bearer of an award would, during the year, add to his budget some 500-600 rubles; a free railroad round-trip to his place of residence, even if it is in the most remote corner of the land; and the right not to stand in line anywhere, which is a very great privilege in the Soviet Union where half of one's life is spent in line; the right to free trips in the trolleys; and the right to get in by the front platform. That is probably why most of the medals went to directing personnel, who do not stand in line anyway because they can use the special stores, and who do not travel in the trolleys as there is a whole network of cars at their disposal.
52. For the rest of the people, for the qualified specialists, there is another method of stimulus. For some superior scientific work -- which in the West would serve to provide for him for the rest of his life -- the Soviet professor is rewarded with a cheap suit, rubber-soled shoes, and some underwear. The author was once rewarded for secret government work with a suit that he has saved to this time. How tragic all this is! But in the impoverished country, where everyone is barefoot and undressed, such means prove very effective as a stimulus for scientific work.

The Frittering Away of Financial Means and its Consequences

53. Under this category is understood the expenditure of money on articles not included in the budget. Overspending on some particular item of the budget is also included. This frittering away of money is always accompanied by assurances that it is essential in the light of the latest technical and scientific developments. The stimulus toward this type of spending is usually to be found in the personal material gain of the directors and of their closest Party aides. Although this is in Soviet reality not an easy thing to carry off, nevertheless it is fairly frequent. All that is necessary is a favorable attitude on the part of the supervisors who watch over the expenditure of budgeted resources. Everyone has certain weaknesses -- the supervisors included, especially if they are in the good graces of those in power. By some coincidence such financial conditions repeatedly occurred in the institutes of the Transcaucasian Republics, as a result of which the budgets of the research institutes increased from year to year by five and six times. And the majority of these organizations is located in just that region: the Tea Institute, the Institute of Subtropical Cultures, the Institute of Citrus Cultures; all of these are located in Georgia.

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54. So, for example, the Institute for Scientific Research in Tea -- having decided to arrange electrical heating in its conservatories and hot-houses -- spent five times more than was allotted in the plan, while the cost of the electrical energy itself was eight times more than allotted in the plan. The same thing happened in the Subtropical Institute. The justification was always the same: we must show foreigners our "high cultural level" in science, although there was not even one instance of foreigners being allowed to inspect any institute which was working on the new cultures. The main point of all this lies in the fact that the directors of these institutes were always favorites of top level Communists who were interested in finding supplementary income for themselves. No one was ever called down for such "activity". In spite of the severity with which the theft of "socialist property" by mere mortals was punished, the favorites of the top level Moscow Communists -- who knew how to cover up their tracks with so-called "care for science" -- received praise and awards instead of the punishment they deserved.
55. Scientific research in the new cultures was a sinecure for the favorites of the important Communists. In all probability that is why such research commands such exceptionally good conditions in Soviet reality. Of course, it is, nevertheless, true that such personnel do not, by any means, detract from the achievements in agriculture that are reached by the hard workers or specialists in this branch.

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